

Practitioner's Docket No. 2550/189

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE



In re application of: John A. Geen

Application No.: 10/646,332

Group No.: 2856

Filed: August 22, 2003

Examiner: Kwok, Helen

For: Micromachined Apparatus Utilizing Box Suspensions

**Mail Stop Amendment**

**Commissioner for Patents**

**P.O. Box 1450**

**Alexandria, VA 22313-1450**

**INFORMATION DISCLOSURE STATEMENT**

NOTE: "An information disclosure statement shall be considered by the Office if filed by the applicant:

(Information Disclosure Statement--page 1 of 10)

**CERTIFICATION UNDER 37 C.F.R. SECTIONS 1.8(a) and 1.10\***

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Express Mail certification is optional.)

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**37 C.F.R. SECTION 1.8(a)**

**37 C.F.R. SECTION 1.10\***

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08/30/2005 AKELECH1 00000031 194972 10646332

01 FC:1806 Date: 180.00 DA  
August 25, 2005

Signature

Jeffrey T. Klayman

**\*WARNING:** Each paper or fee filed by "Express Mail" **must** have the number of the "Express Mail" mailing label placed thereon prior to mailing. 37 C.F.R. section 1.10(b).

"Since the filing of correspondence under section 1.10 without the Express Mail mailing label thereon is an oversight that can be avoided by the exercise of reasonable C.F.R.e, requests for waiver of this requirement will **not** be granted on petition." Notice of Oct. 24, 1996, 60 Fed. Reg. 56,439, at 56,442.

- (1) Within three months of the filing date of a national application;
- (2) Within three months of the date of entry of the national stage as set forth in section 1.491 in an international application; or
- (3) Before the mailing date of a first Office action on the merits, whichever event occurs last." 37 C.F.R. section 1.97(b).

**NOTE:** "Each individual associated with the filing and prosecution of a patent application has a duty of candor and good faith in dealing with the Office, which includes a duty to disclose to the Office all information known to that individual to be material to patentability as defined in this section." 37 C.F.R. section 1.56(a).

"Individuals associated with the filing or prosecution of a patent application within the meaning of this section are:

- (1) each inventor named in the application;
- (2) each attorney or agent who prepares or prosecutes the application; and
- (3) every other person who is substantively involved in the preparation or prosecution of the application and who is associated with the inventor, with the assignee or with anyone to whom there is an obligation to assign the application." 37 C.F.R. section 1.56(c).

**NOTE:** The "duty as described in section 1.56 will be met so long as the information in question was cited by the Office or submitted to the Office in the manner prescribed by sections 1.97(b) - (d) and 1.98 before issuance of the patent." Notice of January 9, 1992, 1135 O.G. 13-25 at 17.

**WARNING:** "No information disclosure statement may be filed in a provisional application." 37 C.F.R. section 1.51(b).

### **List of Sections Forming Part of This Information Disclosure Statement**

The following sections are being submitted for this Information Disclosure Statement:

1. ☒ Preliminary Statements
2. ☒ Forms PTO/SB/08A and 08B (substitute for Form PTO-1449)
3. ☐ Statement as to Information Not Found in Patents or Publications
4. ☐ Identification of Prior Application in Which Listed Information Was Already Cited and for Which No Copies Are Submitted or Need Be Submitted
5. ☐ Cumulative Patents or Publications
6. ☒ Copies of Listed Information Items Accompanying This Statement
7. ☐ Concise Explanation of Non-English Language Listed Information Items
  - 7A. ☐ EPO Search Report
  - 7B. ☐ English Language Version of EPO Search Report
8. ☐ Translation(s) of Non-English Language Documents
9. ☐ Concise Explanation of English Language Listed Information Items (Optional)
10. ☒ Identification of Person(s) Making This Information Disclosure Statement

**NOTE :** "Once the minimum requirements are met, the examiner has an obligation to consider the information." Notice of April 20, 1992 (1138 O.G. 37-41, 37).

## **Section 1. Preliminary statements**

Applicants submit herewith patents, publications or other information, of which they are aware that they believe may be material to the examination of this application, and in respect of which, there may be a duty to disclose.

The filing of this information disclosure statement shall not be construed as a representation that a search has been made (37 C.F.R. section 1.97(g)), an admission that the information cited is, or is considered to be, material to patentability, or that no other material information exists.

The filing of this information disclosure statement shall not be construed as an admission against interest in any manner. Notice of January 9, 1992, 1135 O.G. 13-25, at 25.

**SECTION 2. FORMS PTO/SB/08A and 08B (formerly Form PTO-1449)****IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicants: John A. Geen Attorney Docket: 2550/189  
Serial No: 10/646,332 Art Group Unit: 2856  
Date Filed: August 22, 2003 Examiner Name: Kwok, Helen  
Invention: Micromachined Apparatus Utilizing Box Suspensions

**LIST OF PATENTS AND PUBLICATIONS FOR  
APPLICANT'S INFORMATION DISCLOSURE STATEMENT**

U.S. PATENT DOCUMENTS					
Examiner Initials	Reference Number	Document Number	Issue Date	Inventor	Class/Subclass
	AA	US 2,309,853	Feb. 2, 1943	Lyman et al.	N/A
	AB	US 4,381,672	May 3, 1983	O'Connor et al.	73/505
	AC	US 4,510,802	April 16, 1985	Peters	73/505
	AD	US 4,524,619	June 25, 1985	Staudte	73/505
	AE	US 4,598,585	July 8, 1986	Boxenhorn	73/505
	AF	US 4,654,663	March 31, 1987	Alsenz et al.	73/517
	AG	US 4,744,248	May 17, 1988	Stewart	73/505
	AH	US 4,744,249	May 17, 1988	Stewart	73/505
	AI	US 4,884,446	Dec. 5, 1989	Ljung	73/505
	AJ	US 5,016,072	May 14, 1991	Greiff	357/26
	AK	US 5,016,076	May 14, 1991	Darwish	357/38
	AL	US 5,025,346	June 18, 1991	Tang et al.	361/283
	AM	US 5,056,366	Oct. 15, 1991	Fersht et al.	73/505
	AN	US 5,111,693	May 12, 1992	Greiff	73/514
	AO	US 5,144,184	Sept. 1, 1992	Greiff	310/312
	AP	US 5,195,371	March 23, 1993	Greiff	73/505
	AQ	US 5,203,208	April 20, 1993	Bernstein	73/505
	AR	US 5,216,490	June 1, 1993	Greiff et al.	73/517
	AS	US 5,241,861	Sept. 7, 1993	Hulsing, II	73/505
	AT	US 5,259,247	Nov. 9, 1993	Bantien	73/718
	AU	US 5,273,939	Dec. 28, 1993	Becker et al.	437/209
	AV	US 5,313,835	May 24, 1994	Dunn	73/505
	AW	US 5,329,815	July 19, 1994	Dunn et al.	73/505
	AX	US 5,341,682	Aug. 30, 1994	Hulsing, II	73/505
	AY	US 5,343,749	Sept. 6, 1994	Macy	73/505
	AZ	US 5,349,855	Sept. 27, 1994	Bernstein et al.	73/505
	BA	US 5,359,893	Nov. 1, 1994	Dunn	73/505
	BB	US 5,367,217	Nov. 22, 1994	Norling	310/370
	BC	US 5,377,544	Jan. 3, 1995	Dunn	73/505
	BD	US 5,392,650	Feb. 28, 1995	O'Brien et al.	73/517

(Information Disclosure Statement--page 4 of 10)

Applicants: John A. Geen

Attorney Docket: 2550/189

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Date Filed: August 22, 2003

Examiner Name: Kwok, Helen

Invention: Micromachined Apparatus Utilizing Box Suspensions

U.S. PATENT DOCUMENTS					
Examiner Initials	Reference Number	Document Number	Issue Date	Inventor	Class/Subclass
	BE	US 5,408,877	April 25, 1995	Greiff et al.	73/505
	BF	US 5,481,914	Jan. 9, 1996	Ward	73/504.16
	BG	US 5,492,596	Feb. 20, 1996	Cho	156/632.1
	BH	US 5,496,436	March 5, 1996	Bernstein et al.	156/628.1
	BI	US 5,505,084	April 9, 1996	Greiff et al.	73/504.14
	BJ	US 5,511,419	April 30, 1996	Dunn	73/504.08
	BK	US 5,515,724	May 14, 1996	Greiff et al.	73/504.12
	BL	US 5,530,342	June 25, 1996	Murphy	324/158.1
	BM	US 5,535,902	July 16, 1996	Greiff	216/2
	BN	US 5,537,872	July 23, 1996	Frere et al.	73/504.12
	BO	US 5,555,765	Sept. 17, 1996	Greiff	73/504.09
	BP	US 5,581,035	Dec. 3, 1996	Greiff	73/514.32
	BQ	US 5,600,064	Feb. 4, 1997	Ward	73/504.04
	BR	US 5,604,309	Feb. 18, 1997	Ward	73/504.02
	BS	US 5,604,312	Feb. 18, 1997	Lutz	73/504.14
	BT	US 5,608,351	March 4, 1997	Ward	330/107
	BU	US 5,635,638	June 3, 1997	Geen	73/504.04
	BV	US 5,635,639	June 3, 1997	Greiff et al.	73/504.04
	BW	US 5,635,640	Jun 3, 1997	Geen	73/504.12
	BX	US 5,646,348	July 8, 1997	Greiff et al.	73/514.36
	BY	US 5,650,568	July 22, 1997	Greiff et al.	73/504.09
	BZ	US 5,672,949	Sept. 30, 1997	Ward	318/609
	CA	US 5,696,323	Dec. 9, 1997	Hulsing, II	73/504.12
	CB	US 5,717,140	Feb. 10, 1998	Hulsing, II	73/504.16
	CC	US 5,734,105	March 31, 1998	Mizukoshi	73/504.02
	CD	US 5,747,961	May 5, 1998	Ward et al.	318/646
	CE	US 5,763,781	June 9, 1998	Netzer	73/504.16
	CF	US 5,767,405	June 16, 1998	Bernstein et al.	73/504.16
	CG	US 5,783,973	July 21, 1998	Weinberg et al.	331/35
	CH	US 5,795,988	Aug. 18, 1998	Lo et al.	73/1.77
	CI	US 5,796,001	Aug. 18, 1998	Greiff et al.	73/504.16
	CJ	US 5,869,760	Feb. 9, 1999	Geen	73/504.12
	CK	US 5,886,816	March 23, 1999	Faris	359/464
	CL	US 5,892,153	April 6, 1999	Weinberg et al.	73/504.16
	CM	US 5,895,850	April 20, 1999	Buestgens	73/504.12

Applicants: John A. Geen

Attorney Docket: 2550/189

Serial No: 10/646,332

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Examiner Name: Kwok, Helen

Invention: Micromachined Apparatus Utilizing Box Suspensions

U.S. PATENT DOCUMENTS					
Examiner Initials	Reference Number	Document Number	Issue Date	Inventor	Class/Subclass
	CN	US 5,895,851	April 20, 1999	Kano et al.	73/504.04
	CO	US 5,911,156	June 8, 1999	Ward et al.	73/504.16
	CP	US 5,918,280	June 29, 1999	Gang et al.	73/504.12
	CQ	US 5,920,012	July 6, 1999	Pinson	73/504.12
	CR	US 5,945,600	Aug. 31, 1999	Touge et al.	73/504.14
	CS	US 5,952,572	Sept. 14, 1999	Yamashita et al.	73/504.04
	CT	US 5,955,668	Sept. 21, 1999	Hsu et al.	73/504.12
	CU	US 5,987,986	Nov. 23, 1999	Wyse et al.	73/504.12
	CV	US 5,992,233	Nov. 30, 1999	Clark	73/514.35
	CW	US 6,009,751	Jan. 4, 2000	Ljung	73/504.02
	CX	US 6,032,531	May 7, 2000	Roszhart	73/504.04
	CY	US 6,044,707	April 4, 2000	Kato	73/504.14
	CZ	US 6,064,169	May 16, 2000	Ward et al.	318/646
	DA	US 6,067,858	May 30, 2000	Clark et al.	73/504.16
	DB	US 6,070,463	June 6, 2000	Moriya et al.	73/504.12
	DC	US 6,089,089	July 18, 2000	Hsu	73/504.12
	DD	US 6,122,961	Sept. 26, 2000	Geen et al.	73/504.12
	DE	US 6,128,953	Oct. 10, 2000	Mizukoshi	73/504.02
	DF	US 6,155,115	Dec. 5, 2000	Ljung	73/504.12
	DG	US 6,164,134	Dec. 26, 2000	Cargille	73/504.02
	DH	US 6,189,381	Feb. 20, 2001	Huang et al.	73/504.12
	DI	US 6,190,571	Feb. 20, 2001	Kato	216/2
	DJ	US 6,250,156	June 26, 2001	Seshia et al.	73/502.12
	DK	US 6,250,157	June 26, 2001	Touge	73/504.12
	DL	US 6,257,059	July 10, 2001	Weinberg et al.	73/504.16
	DM	US 6,289,733	Sept. 18, 2001	Challoner et al.	73/504.12
	DN	US 6,311,555	Nov. 6, 2001	McCall et al.	73/488
	DO	US 6,321,598	Nov. 27, 2001	Iwaki et al.	73/504.02
	DP	US 6,282,960 B1	Sept. 4, 2001	Samuels et al.	73/514.32
	DQ	US 5,600,065	Feb. 1997	Kar et al.	73/504.12
	DR	US 6,516,666	Feb. 2003	Li, Guang X.	73/504.12
	DS	US 6,561,029	May 2003	Folkmer et al.	73/504.14
	DT	US 6,860,151	March 1, 2005	Flatt et al.	73/504.16
	DU	US 6,767,758	July 27, 2004	Geen	438/48
	DV	US 6,230,563	May 15, 2001	Clark, et al.	73/504.04

Applicants: John A. Geen Attorney Docket: 2550/189  
Serial No: 10/646,332 Art Group Unit: 2856  
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U.S. PATENT DOCUMENTS					
Examiner Initials	Reference Number	Document Number	Issue Date	Inventor	Class/Subclass
	DW	US 6,505,511	Jan. 14, 2003	Geen, et al.	73/504.12

U.S. PATENT PUBLICATION DOCUMENTS					
Examiner Initials	Reference Number	Document Number	Publication Date	Inventor	Class/Subclass
	DX	US 2003/131664	July 17, 2003	Mochida, et al.	73/504.12
	DY	US 2003/005767	Jan. 9, 2003	Hulsing, II	73/514.02
	DZ	US 2003/0131669	July 17, 2003	Osawa	73/861.355

FOREIGN PATENT DOCUMENTS						
Examiner Initials	Reference Number	Country Code	Document Number	Publication Date	Patentee or Applicant	Class/Subclass
	EA	WO	WO 96/39615	Dec. 12, 1996	Analog Devices, Inc.	G01C 19/56, G01P 15/00
	EB	WO	WO 93/05401	March 18, 1993	The Charles Stark Draper Laboratory, Inc.	G01P 9/04
	EC	WO	WO 01/79862 A1	Oct. 25, 2001	Microsensors, Inc.	G01P 9/04

OTHER DOCUMENTS			
Examiner Initials	Reference Number	Author	Title of Article, Title of Journal, Volume Number, Page Numbers, Date
	ED	Weinberg et al.	<i>A Micromachined Comb-Drive Tuning Fork Rate Gyroscope</i> , Proceedings of the 49 <sup>th</sup> Annual Meeting of the Institute of Navigation, June 21-23, 1993, 7 pages.
	EE	Seshia et al.	<i>Integrated Microelectromechanical Resonant Output Gyroscope</i> , updated, online < <a href="http://hera.berkeley.edu/IRO/Summary/olabstracts/aseshia.1.html">http://hera.berkeley.edu/IRO/Summary/olabstracts/aseshia.1.html</a> >, printed February 6, 2002, 2 pages.

Applicants: John A. Geen

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	<b>EF</b>	Geen et al.	<i>Single-Chip Surface Micromachined Integrated Gyroscope with 50°/h Allan Deviation</i> , IEEE Journal of Solid-State Circuits, Vol. 37, No. 12, December 2002, 7 pages.
	<b>EG</b>		<i>A Comb-drive Piezoresistive Vibratory Gyroscope</i> , online < <a href="http://mems.stanford.edu/~lian/gyro.html">http://mems.stanford.edu/~lian/gyro.html</a> >, printed February 6, 2002, 4 pages.
	<b>EH</b>	Authorized Officer Mildred Condron	<i>International Search Report and The Written Opinion of the International Searching Authority</i> , International Searching Authority, December 22, 2004, 13 pages.

Examiner Signature: \_\_\_\_\_

Date Considered: \_\_\_\_\_

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation *if not* in conformance and not considered. Include copy of this form with next communication to applicant.

## Section 6. Copies of Listed Information Items Accompanying This Statement

*NOTE: 37 C.F.R. section 1.98(a)(2) requires that any information disclosure statement filed under section 1.97 shall include: "A legible copy of: (i) Each U.S. and foreign patent; (ii) Each publication or that portion which caused it to be listed; and (iii) All other information or that portion which caused it to be listed, except that no copy of a U.S. patent application need be included . . ."*

*NOTE: The wording in section 1.98(a)(2)(iii) makes it clear that the requirement to submit a copy of each item of information listed in an information disclosure statement does not apply to the citation of a U.S. patent application. Notice of January 9, 1992, 1135 O.G. 13-25, at 14.*

Legible copies of all items listed in Forms PTO/SB/08A and 08B (substitute for Form PTO-1449) accompany this information statement.

*(complete the following, if applicable)*

☒ Exception(s) to above:

**U.S. patent citations are not included pursuant to the United State Patent and Trademarks Office's September 21, 2004 waiver of the copy requirement in 37 CFR 1.98 for cited pending U.S. patent citations when the patent citations are available in the USPTO's IFW system.**

☐ Items in prior application, from which an earlier filing date is claimed for this application, as identified in Section 4.

☐ Cumulative patents or publications identified in Section 5.

**Section 10. Identification of Person(s) Making This Information Disclosure Statement**

The person making this certification is

*(check each applicable item)*

- (a) ☐ the inventor(s) who signs below

\_\_\_\_\_  
**SIGNATURE OF INVENTOR**

\_\_\_\_\_  
*(type name of inventor who is signing)*

- (b) ☐ an individual associated with the filing and prosecution of this application (37 C.F.R. section 1.56(c))

\_\_\_\_\_  
**SIGNATURE OF INVENTOR**

\_\_\_\_\_  
*(type name of inventor who is signing)*

- (c) ☒ the practitioner who signs below on the basis of the information:

*(check each applicable item)*

☐ supplied by the inventor(s).

☐ supplied by an individual associated with the filing and prosecution of this application. (37 C.F.R. section 1.56(c)).

☒ in the practitioner's file.

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02550/00189 358151.1

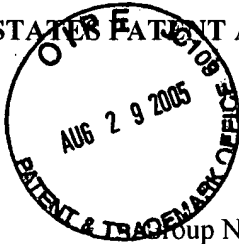
  
\_\_\_\_\_  
**SIGNATURE OF PRACTITIONER**

\_\_\_\_\_  
**Jeffrey T. Klayman**  
*(type or print name of practitioner)*

\_\_\_\_\_  
**125 Summer Street, 11<sup>th</sup> Floor**  
P.O. Address

\_\_\_\_\_  
**Boston, MA 02110**

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE



In re application of: John A. Geen

Application No.: 10/646,332

Filed: August 22, 2003

For: Micromachined Apparatus Utilizing Box Suspensions

Group No.: 2856

Examiner: Kwok, Helen

Mail Stop Amendment

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

TRANSMITTAL OF INFORMATION DISCLOSURE STATEMENT  
BEFORE MAILING DATE OF EITHER A FINAL ACTION  
OR NOTICE OF ALLOWANCE (37 C.F.R. § 1.97(c))

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**CERTIFICATION UNDER 37 C.F.R. §§ 1.8(a) and 1.10\***

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Express Mail certification is optional.)*

I hereby certify that, on the date shown below, this correspondence is being:

**MAILING**

☒ deposited with the United States Postal Service in an envelope addressed to Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

37 C.F.R. § 1.8(a)

☒ with sufficient postage as first class mail.

37 C.F.R. § 1.10\*

☐ as "Express Mail Post Office to Addressee"

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**TRANSMISSION**

☐ facsimile transmitted to the Patent and Trademark Office, (703) \_\_\_\_\_

  
\_\_\_\_\_  
Signature

Date: August 25, 2005

Jeffrey T. Klayman  
(type or print name of person certifying)

\* Only the date of filing (' 1.6) will be the date used in a patent term adjustment calculation, although the date on any certificate of mailing or transmission under ' 1.8 continues to be taken into account in determining timeliness. See ' 1.703(f). Consider "Express Mail Post Office to Addressee" (' 1.10) or facsimile transmission (' 1.6(d)) for the reply to be accorded the earliest possible filing date for patent term adjustment calculations.

**TIME OF TRANSMITTAL OF ACCOMPANYING  
INFORMATION DISCLOSURE STATEMENT**

1. The information disclosure statement transmitted herewith is being filed *after* three months of the filing date of this national application or the date of entry of the national stage as set forth in Section 1.491 in an international application or after the mailing date of the first Office action on the merits, whichever event occurred last but *before* the mailing date of either

- (1) a final action under § 1.113 or
- (2) a notice of allowance under § 1.311

whichever occurs first.

**FEE**

2. Accompanying this transmittal is the fee for submission of an information disclosure statement under section 1.97(c). (\$180.00)

**FEE PAYMENT**

3. Applicant elects the option to pay the fee set forth in 37 C.F.R. § 1.17(p) for submission of an information disclosure statement under § 1.97(c) (\$180.00).

Fee due \$180.00

**METHOD OF PAYMENT OF FEE**

4. Authorization is hereby made to charge the amount of \$180.00 to Deposit Account No. 19-4972.

Charge any additional fees required by this paper or credit any overpayment to Deposit Account No. 19-4972.

A duplicate of this paper is attached.

DATE: August 25, 2005



Jeffrey T. Klayman  
BROMBERG & SUNSTEIN LLP  
Customer Number 02101  
125 Summer Street  
Boston, MA 02110-1618  
US

02550/00189 426989.1